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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,324	02/13/2001	Yosuke Konaka	1080.1092/JDH	9071

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EXAMINER

PATEL, NITIN C

ART UNIT PAPER NUMBER

2116

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,324

Applicant(s)

KONAKA, YOSUKE

Examiner

Nitin C. Patel

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1 – 42 are presented for the examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2 – 3, are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Pate et al. [hereinafter as Pate], US Patent 5,832,282.

4. As to claim 2, Pate teaches an apparatus and method comprising:

- a. a removal requirement receipt section [20, switch is actuated when cover is partially removed from the receptacle] for receiving a removal requirement for a part of [306, main battery] the mounted batteries [main battery, and backup battery]; and

- b. a processing ability control section [300, CPU] responsive to [upon receipt of RSM signal which is generated by actuation of switch] the removal requirement for a

-battery from said removal requirement receipt section for lowering a processing ability [causes computer to enter low power battery swap mode][col. 1, lines 21 – 24, lines 52 – 60, col. 2, lines 29 – 59].

5. As to claim 3, Pate teaches an apparatus to which a plurality of batteries are detachably mounted and method of operation comprising:

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- a. a mounting [mounted] and removal [removed] detection section [20, switch] for detecting mounting and removal of batteries [20, switch is actuated when cover is partially removed from the receptacle];
- b. a processing ability control section [300, CPU] responsive to detection of a removal of a battery [upon receipt of BSM signal which is generated by actuation of switch] by said mounting and removal detection section [20] for lowering a processing ability [causes computer to enter low power battery swap mode][col. 1, lines 21 – 24, lines 52 – 60, col. 2, lines 29 – 59].

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 5 – 6, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pate et al. [hereinafter as Pate], US Patent 5,832,282 as applied to claims 2, and 3 above, and further in view of Jackson et al. [hereinafter as Jackson], US Patent 6,601,179.

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9. As to claims 5 – 6, Pate teaches an apparatus and method for implementing protected hot swapping of battery in portable computer with a switch located under the battery receptacle cover, which is actuated by partial removal of cover and a BSM [battery swap signal] is generated to CPU causing the computer to operate in low power battery swap mode. However, Pate teaches a battery removal requirement receipt section for receiving a removal requirement for a part of the mounted batteries, and control section for causing the computer to operate in low power battery swap mode, but he does not disclose how he switches to lower power mode of operation by changing operating frequency. In summary, Pate does not disclose switching of lower power mode with operating frequency control [col. 1, lines 21 – 24, lines 52 – 60, col. 2, lines 29 – 59].

Jackson teaches a system and method for controlling power and performance based on operating environment with a circuit a method of altering performance of electronic device based on determination is made as to whether operating environment of portable computer matches the current voltage and transition is made to lower power state with an interrupt made requesting control of the power management to be passed to micro-controller which signals the frequency control circuit to decrease the operating frequency of processor to a prescribed operating frequency and transitioning back to a high power state with increase in operating frequency. Jackson teaches a circuit and method of altering a performance of an electronic device by increasing or decreasing operating frequency corresponding to a change in power state [col. 11, lines 14 – 33, col. 12, lines 3 – 65, fig. 5A – 5C, 7A – 7C].

It would have been an obvious to one of an ordinary skill in art at the time of invention to combine the teachings of Pate with Jackson because both are related to problems in power

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management of an electronic apparatus and Jackson's method for controlling power by altering performance based on operating environment by making correspondent change in operating frequency in accordance with power state will extend the battery life of a removable battery pack of a battery-powered portable computer [col. 2, lines 31 - 34].

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 8, 10, 12, and 14 - 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pate et al. [hereinafter as Pate], US Patent 5,832,282 as applied to claim 2 above, and further in view of Odaohara, US Patent 5, 784,626.

12. As to claim 8, Pate teaches an apparatus and method for implementing protected hot swapping of battery in portable computer with a switch located under the battery receptacle cover, which is actuated by partial removal of cover and a BSM [battery swap signal] is generated to CPU causing the computer to operate in low power battery swap mode. However, Pate teaches a battery removal requirement receipt section for receiving a removal requirement for a part of the mounted batteries, and control section for causing the computer to operate in low power battery swap mode, but he does not disclose display section for displaying inhibit or acceptance of the removal of a battery based on determination of battery capacity even if the processing ability is lowered. In summary, Pate does not disclose display arrangement for

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displaying inhibit or acceptance of the removal of a battery even if the processing ability is lowered [col. 1, lines 21 – 24, lines 52 – 60, col. 2, lines 29 – 59].

Odaohara teaches a battery connecting device for computer system and method of switching batteries with display section [an LED] which is switched on to indicate the remaining battery capacities are low while computer is in low power mode even if no power supplied to a display [col. 5, lines 24 – 37].

It would have been an obvious to one of an ordinary skill in art at the time of invention to combine the teachings of Pate with Odaohara because both are related to problems in batteries mounting and removal of an electronic apparatus and Odaohara's method of switching batteries with a battery connecting device with LED can eliminate the power loss that is occasioned by a diode and that can extend the battery operational period for a battery-powered portable computer [col. 2, lines 8 – 12].

13. As to claims 10, and 12, Odaohara discloses a monitoring capacity by measuring voltage to calculate the residual [remaining] capacity of the battery [col. 5, lines 11 – 29].

14. As to claims 14 – 15, Odaohara discloses mounting of plurality of batteries including different types of chargeable battery packs [col. 3, lines 57 – 65].

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. Claims, 19 – 21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pate et al. [hereinafter as Pate], US Patent 5,832,282 as applied to claims 2, and 3 above, and further in view of Chen, US Patent 181,103.

17. As to claims 19, and 21, Pate teaches an apparatus and method for implementing protected hot swapping of battery in portable computer with a switch located under the battery receptacle cover, which is actuated by partial removal of cover and a BSM [battery swap signal] is generated to CPU causing the computer to operate in low power battery swap mode. However, Pate does not disclose a battery pack has a memory for storing of an association between voltage and supplying current of an associated battery and residual electrical power of the battery. In summary, Pate does not disclose a battery pack having a memory for storing associated battery data [col. 1, lines 21 – 24, lines 52 – 60, col. 2, lines 29 – 59].

Chen teaches an advanced intelligent computer power management system, which has a removable smart battery pack with an internal memory for storing associated battery data and use them to determine full functionality [capacity] of battery pack.

It would have been obvious to one of an ordinary skill in art at the time of invention to combine the teachings of Pate and Chen as both are related to problems related to power management system of battery powered device and Chen's advanced power management with the use of smart battery pack provide a reliable lifecycle record and analysis of battery pack, and facilitate the best usage of battery pack during its operation [col. 1, lines 58 – 61].

18. As to claims 8, 21, and, 24 Chen discloses a smart battery pack with an internal memory, and a display section for displaying current status of the battery pack [col. 2, lines 27 – 32] and

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battery parameters use to determine the full function [capacity] of battery pack too [col. 2, lines 20 - 63].

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

21. Claims 1, 4, 7, 9, 11, 13, 16, 18, 20, 22 - 23, and 25 - 42 are rejected under 35

U.S.C. 103(a) as being unpatentable over Hayashi et al. [hereinafter as Hayashi], US Patent 5,963,010, and further in view of Eguchi, US Patent 6,177,779.

22. As to claims 1, 25, 26, and 27 Hayashi teaches a system and method of operation of an apparatus with battery controller for controlling pluralities of detachable batteries by examining whether mounted in slots or removed, discharge switching means including monitoring and calculating remaining battery power and detecting when output voltage of the battery being discharged reaches the previously set suspended mode shift voltage and producing a signal for shifting an apparatus in suspended mode in which consumption of power is extremely

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suppressed [col.2, lines 46 – 65, col. 3, lines 9 – 35, fig. 2,8, and 9]. However, Hayashi does not teach a battery removal requirement receipt section for receiving a removal requirement for a part of the mounted batteries. In summary, Hayashi does not disclose of detecting a battery removal before the battery is removed [col. 2, lines 46 – 65, col. 3, lines 4 – 30, col. 9, lines 3 – 67, col. 10, lines 1 – 22].

Eguchi teaches system and method of information processing of an apparatus with a multiple detachable battery pack mounted [loaded] as power supply comprising: a removal requirement receipt section [a detector means] for receiving a removal requirement for a part of mounted batteries [to detect release state of loading mechanism before battery pack is completely detached [removed]], with switching control means operative on the basis of detection results from detector means, switching control means being adapted to allow discharge switch to be turned on to thereby allow the secondary battery pack to discharge [col. 1, lines 50 – 62, col. 2, lines 56 – 67, col. 3, lines 1 – 28, col. 9, lines 23 – 55, col. 11, lines 3 – 52, fig. 5 - 7].

It would have been an obvious to one of an ordinary skill in art at the time of invention to combine the teachings of Hayashi and Eguchi because both are related to an apparatus with a plurality of detachably connected batteries and problems during inserting and detaching part of mounted batteries and Eguchi's method of detecting a release state of loading mechanism before the battery is completely removed [detached] would prevent instantaneous cut-off of power supply by removal of battery by recognizing in advance that battery pack is removed [col. 1, lines 6 – 12].

Claim Rejections - 35 USC § 103

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23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claim 4, is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. [hereinafter as Hayashi], US Patent 5,963,010, and further in view of Eguchi, US Patent 6,177,779 as applied to claim 1 above, and further in view of Jackson et al. [hereinafter as Jackson], US Patent 6,601,179.

25. As to claim 4, Hayashi teaches a system and method of operation of an apparatus with battery controller for controlling pluralities of detachable batteries by examining whether mounted in slots or removed, discharge switching means including monitoring and calculating remaining battery power and detecting when output voltage of the battery being discharged reaches the previously set suspended mode shift voltage and producing a signal for shifting an apparatus in suspended mode in which consumption of power is extremely suppressed [col.2, lines 46 – 65, col. 3, lines 9 – 35, fig. 2, 8, and 9]. However, Hayashi does not teach a battery removal requirement receipt section for receiving a removal requirement for a part of the mounted batteries, and how he switches to lower power mode of operation in detail. In summary, Hayashi does not disclose of detecting a battery removal before the battery is removed, and switching of lower power mode in detail [col. 2, lines 46 – 65, col. 3, lines 4 – 30, col. 9, lines 3 – 67, col. 10, lines 1 – 22].

Eguchi teaches system and method of information processing of an apparatus with a multiple detachable battery pack mounted [loaded] as power supply comprising: a removal

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requirement receipt section [a detector means] for receiving a removal requirement for a part of mounted batteries [to detect release state of loading mechanism before battery pack is completely detached [removed]], with switching control means operative on the basis of detection results from detector means, switching control means being adapted to allow discharge switch to be turned on to thereby allow the secondary battery pack to discharge [col. 1, lines 50 – 62, col. 2, lines 56 – 67, col. 3, lines 1 – 28, col. 9, lines 23 – 55, col. 11, lines 3 – 52, fig. 5 - 7].

Jackson teaches a system and method for controlling power and performance based on operating environment with a circuit a method of altering performance of electronic device based on determination is made as to whether operating environment of portable computer matches the current voltage and transition is made to lower power state with an interrupt made requesting control of the power management to be passed to micro-controller which signals the frequency control circuit to decrease the operating frequency of processor to a prescribed operating frequency and transitioning back to a high power state with increase in operating frequency. Jackson teaches a circuit and method of altering a performance of an electronic device by increasing or decreasing operating frequency corresponding to a change in power state [col. 1, lines 14 – 33, col. 12, lines 3 – 65, fig. 5A – 5C, 7A – 7C].

It would have been an obvious to one of an ordinary skill in art at the time of invention to combine the teachings of Hayashi and Eguchi with Jackson because all of them are related to problems in power management of an electronic apparatus and Jackson's method for controlling power by altering performance based on operating environment by making correspondent change in operating frequency in accordance with power state will extend the battery life of a removable battery pack of a battery-powered portable computer [col. 2, lines 31 – 34].

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26. As to claims 9, 11, 30 – 33, Hayashi discloses a battery controller with battery monitoring means for calculating residual power [remaining capacity] by measuring output voltage of battery being discharged and supplying [discharge] current and uses to calculate even remaining operation time [col. 3, lines 19 – 24, col. 4, lines 22 – 57, fig. 6, 8].

27. As to claims 13, 16, 34 – 37, Hayashi discloses mounting of plurality of batteries of various kinds including a smart battery with monitoring IC, and chargeable battery too [col. 2, lines 50 – 54, col. 6, lines 23 – 26] with a memory [it is inherent as smart battery memorizing the charge level] for storing residual power [when a battery is re-charged in the state where electric power in battery is not discharged completely, battery memorizes the charge level remaining therein] of an associated battery pack [col. 1, lines 35 – 43, fig. 6, 8].

28. As to claims 18, 20, 22 – 23, Hayashi discloses mounting of plurality of batteries including smart batteries with battery monitoring IC which uses an average discharge current value to calculate the remaining operation time relative to the residual power [remaining capacity] [col. 4, lines 27 – 53, fig. 6].

29. As to claims 34 – 42, Hayashi teaches a system with multiple detachable batteries and method of operation with battery controller for controlling the batteries and battery monitoring means [battery monitoring IC] for calculating residual [remaining] power with battery state display picture displaying a state of battery and [residual] remaining charge level by examining [measuring and comparing] discharge voltage and current for producing a signal for discharge switching circuit and shifting the mode of personnel computer therefore, he teaches the different steps involved in monitoring and displaying the battery state with the charge level too [col. col. 4, lines 27 – 57, col. 8, lines 30 – 67, col. 9, 1 – 67, col. 10, 1 – 23, fig. 6, 8].

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Claim Rejections - 35 USC § 103

30. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

31. Claim 7, and 28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. [hereinafter as Hayashi], US Patent 5,963,010, and further in view of Eguchi, US Patent 6,177,779 as applied to claims 1, 25, and 26 above, and further in view of Odaohara, US Patent 5,784,626.

32. As to claims 7, and 28, Hayashi teaches a system and method of operation of an apparatus with battery controller for controlling pluralities of detachable batteries by examining whether mounted in slots or removed, discharge switching means including monitoring and calculating remaining battery power and detecting when output voltage of the battery being discharged reaches the previously set suspended mode shift voltage and producing a signal for shifting an apparatus in suspended mode in which consumption of power is extremely suppressed [col.2, lines 46 – 65, col. 3, lines 9 – 35, fig. 2,8, and 9]. However, Hayashi does not teach a battery removal requirement receipt section for receiving a removal requirement for a part of the mounted batteries, and how he switches to lower power mode of operation in detail. In summary, Hayashi does not disclose of detecting a battery removal before the battery is removed, and switching of lower power mode in detail [col. 2, lines 46 – 65, col. 3, lines 4 – 30, col. 9, lines 3 – 67, col. 10, lines 1 – 22].

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Eguchi teaches system and method of information processing of an apparatus with a multiple detachable battery pack mounted [loaded] as power supply comprising: a removal requirement receipt section [a detector means] for receiving a removal requirement for a part of mounted batteries [to detect release state of loading mechanism before battery pack is completely detached [removed]], with switching control means operative on the basis of detection results from detector means, switching control means being adapted to allow discharge switch to be turned on to thereby allow the secondary battery pack to discharge [col. 1, lines 50 – 62, col. 2, lines 56 – 67, col. 3, lines 1 – 28, col. 9, lines 23 – 55, col. 11, lines 3 – 52, fig. 5 - 7]. However, Hayashi and Eguchi do not disclose display section for displaying inhibit or acceptance of the removal of a battery based on determination of battery capacity even if the processing ability is lowered. In summary, Hayashi and Eguchi do not disclose display arrangement for displaying inhibit or acceptance of the removal of a battery even if the processing ability is lowered.

Odaohara teaches a battery connecting device for computer system and method of switching batteries with display section [an LED] which is switched on to indicate the remaining battery capacities are low while computer is in low power mode even if no power supplied to a display [col. 5, lines 24 – 37].

It would have been an obvious to one of an ordinary skill in art at the time of invention to combine the teachings of Hayashi and Eguchi with Odaohara because all of them are related to problems in batteries mounting and removal of an electronic apparatus and Odaohara's method of switching batteries with a battery connecting device and LED can eliminate the power loss that is occasioned by a diode and that can extend the battery operational period for a battery-powered portable computer [col. 2, lines 8 – 12].

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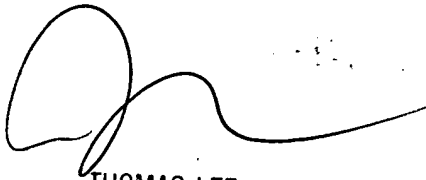
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin C. Patel whose telephone number is 703-305-3994. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on 703-305-9717. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nitin C. Patel
February 26, 2004



THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100